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## First-Year Mechatronic Experiences: Towards Predicting Student Motivation

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# First-Year Mechatronic Experiences: Towards Predicting Student Motivation

## **Abstract**

Summary: This research examined the impacts that a half-semester mechatronics project in a first-year undergraduate course had on students' motivational orientation.

## **Disciplines**

Agriculture | Bioresource and Agricultural Engineering | Engineering Education

## **Comments**

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Thursday, November 2, 2017

## Teaching Innovations

### First-Year Mechatronic Experiences: Towards Predicting Student Motivation

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**Need:** A data-driven answer to whether and to what degree a mechatronic experience impacts students' level of motivation will significantly contribute to the discussion of first-year undergraduate education.

**Overview:** Current literature has offered limited empirical evidence illustrating the impact that mechatronic experiences in first-year undergraduate courses have on student motivation and engagement. While there is much anecdotal evidence that these experiences are "exciting", "fun", or "interesting", an evidence-based foundation that clearly delineates the impact of how students are motivated to engage has eluded publication. Therefore, a data-driven answer to whether and to what degree a mechatronic experience impacts students' level of motivation will significantly contribute to the discussion of first-year undergraduate education.

#### Major Points:

- Mechatronic experiences impact the motivational orientation of students in first-year applied engineering courses
- Different student subpopulations were impacted differently by the mechatronic experience

**Summary:** This research examined the impacts that a half-semester mechatronics project in a first-year undergraduate course had on students' motivational orientation.